

10/540526
JC17 Rec'd PCT/PTO 24 JUN 2005

CLAIMS

1. (amended) A multi perspective video capture system that acquires video information of a target object from multi perspective, comprising:

a plurality of cameras that are movable in three dimensions and which are capable of following the movement of the target object,

wherein video image data of a moving image that is synchronized for each frame of the plurality of cameras, camera parameters for each frame of each of the cameras, and association information that mutually associates the video image data of the moving image with the camera parameters for each frame are acquired; and

video image data of the moving image of the plurality of cameras is calibrated for each frame by using camera parameters that are associated with the association information, and information for analyzing the three-dimensional movement and attitude at each point in time of the target object is continuously obtained.

2. The multi perspective video capture system according to claim 1, wherein the video image data of the moving image and camera parameters are stored and the video image data and camera parameters are stored for each frame.

3. A multi perspective video capture system that acquires picture information of a target object from multi

perspective, comprising:

a plurality of cameras that are movable in three dimensions for acquiring video image data of a moving image;

detector for acquiring camera parameters of each camera;

synchronizer for synchronizing the plurality of cameras;

data appending device for adding association information that makes associations between synchronized moving image video image data of each camera and between moving image video image data and camera parameters; and

calibrator for calibrating the video image data of each moving image by means of corresponding camera parameters on the basis of the association information and for obtaining information for analyzing the movement and attitude of the target object.

4. The multi perspective video capture system according to claim 3, comprising:

video image data storage for storing, for each frame, video image data to which the association information has been added; and

camera parameter storage for storing camera parameters to which the association information has been added.

5. The multi perspective video capture system

according to claim 1 or 3, wherein the association information is a frame count of video image data of a moving image that is acquired from one camera of the plurality of cameras.

6. The multi perspective video capture system according to claim 1 or 3, wherein the camera parameters include camera attitude information of camera pan and tilt and zoom information.

7. The multi perspective video capture system according to claim 6, wherein the camera parameters include two dimensional or three-dimensional position information of the camera.

8. The multi perspective video capture system according to claim 2 or 4, wherein the data stored for each frame includes measurement data.

9. A storage medium for a program that causes a computer to execute control to acquire video image information of a target object from multi perspective, comprising:

first program encoder that sequentially add a synchronization common frame count to video image data of each frame acquired from a plurality of cameras; and

second program encoder that sequentially add a frame count corresponding to the video image data to the camera parameters of each camera.

10. The storage medium for a program according to claim 9, wherein the first program encoder include the storing in first storage of video image data to which a frame count has been added.

11. The storage medium for a program according to claim 9, wherein the second program encoder include the storing in second storage of count parameters to which a frame count has been added.

12. The storage medium for a program according to any of claims 9 to 11, wherein the camera parameters include camera attitude information of camera pan and tilt and zoom information.

13. The storage medium for a program according to claim 12, wherein the camera parameters include two-dimensional or three-dimensional position information of the camera.

14. A video image information storage medium that stores picture information of a target object acquired from multi perspective, which stores first picture information in which a synchronization common frame count has been sequentially added to video image data of each frame acquired by a plurality of cameras, and second video image information in which a frame count corresponding with the video image data has been sequentially added to the camera parameters of each camera.

15. The video image information storage medium

according to claim 14, wherein the camera parameters include camera attitude information of camera pan and tilt and zoom information.

16. The video image information storage medium according to claim 14, wherein the camera parameters include two-dimensional or three-dimensional position information of the camera.

17. A camera parameter correction method, comprising the steps of:

acquiring an image in a plurality of rotational positions by panning and/or tilting a camera;

finding correspondence between the focal position of the camera and the center position of the axis of rotation from the image;

acquiring the camera parameters of the camera;
and

correcting the camera parameters on the basis of the correspondence.

18. (amended) A wide-range motion capture system that acquires video image information of a three-dimensional target object and reproduces three-dimensional movement of the target object, wherein the three-dimensional movement of the target object is followed by changing, for a plurality of cameras, camera parameters that include at least any one of the pan, tilt, and zoom of each camera;

synchronized video image data of a moving image

Article 34

that is imaged by each camera and the camera parameters of each of the cameras are acquired such that the video image data and camera parameters are associated for each frame; and

the respective video image data of the moving images of the plurality of cameras is calibrated according to the camera parameters for each frame, positional displacement of the images caused by the camera following the target object is corrected, and the position of the three-dimensional target object moving in a wide range is continuously calculated.